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EDITORIAL NOTE

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RELATIVE WAGES AND EARNINGS IN DIFFERENT OCCUPATIONS

2. Earnings

In the last number of the Bulletin some account was given of the changes in wage-rates for the normal pre-war week's work up to December 1941. During the war a very large number of operatives have worked overtime and at night, while piece- and bonus-payments have been common. These and other factors have resulted in an increase in actual weekly earnings more rapid than in wage-rates. Most of the excess was obtained by July 1940, since when the two measurements have been less divergent.

The Ministry of Labour has published accounts of average earnings in ninety or more separate industries for the three dates October 1938, July 1940 and July 1941. The whole of industry is covered by these returns, except coal mining, railway traffic, agriculture and fishing. Distribution (other than road transport), commerce and personal services are excluded. Summary comparisons are shown in the Table I.

These averages are based on the statistics of those firms who furnished records for each of the three dates. It is estimated that they covered over 70 per cent. of the numbers employed in the industries concerned, which affords a sufficient basis for the averages and the average changes in the industries separately. But the proportions of returns to all employed varied from industry to industry, and the general averages have been revised (*Labour Gazette*, December 1941) on the basis of weighting by the estimated numbers of wage-earners actually employed in each industry. The revised figures are given in the right-hand column of the Table, and in the last percentage line.

TABLE I

Average Weekly Earnings in Industry. (Shillings.)

	Men.	Lads under 21.	Women	Girls under 18.	All	All, revised.
October 1938 ...	69·4	25·9	32·5	18·6	53·0	*53·2*
July 1940	88	32	39	22·5	69·0	*69·2*
July 1941	99·3	40·6	44·3	25·2	75·4	*75·8*
		Percentage changes: earnings.				
October 1938 ...	100	100	100	100	100	*100*
July 1940	128	135	120	121	130	*130*
July 1941	143	157	136	135	142	*142*
Revised	*144*	*161*	*135*	*135*	*142*	
		Wage-rates index.		*Cost of Living index.*		
October 1938 ...		100		100		
July 1940		112		120		
July 1941		119½		128		

The averages, being based on the numbers actually employed at each date, are affected in several industries by the substitution of women, lads and girls for men to an extent which it is not possible to measure from the data, but appears usually to be small. Where this change occurs we may expect the average of all employed to have increased less than the average for men.

A more important factor is the increase in the numbers employed in munition industries, and a decrease in non-essential industries, where in general average wages are lower. If the industries are weighted by the numbers employed in 1938, the increase in the general average is found to be 26½ instead of 30 per cent. from 1938 to 1940, and 37 instead of 42 per cent. from 1938 to 1941.

The wage-rate index in the Table differs from that in the last BULLETIN by the exclusion of railways, coal and agriculture, and also in dates. It is seen that while the wage-index (based on unchanged numbers in each industry) increased 19½ per cent., or according to the *Labour Gazette*, November 1941, p. 214, 18 per cent., for the industries included in the reports, average earnings increased by more than twice that proportion between 1938 and 1941.

While the index of wage-rates rose 8 per cent. less than the official Cost of Living Index, that of earnings rose 14 per cent. more. If we take a modified Cost of Living Index, allowing for the increased expense of a change of adequate diet (as discussed in BULLETIN Vol. 3, No. 5, pp. 92-7), and write 34 per cent. for the increased Cost of Living,[1] average earnings allow a margin of 8 points. Put otherwise, an increase of working hours from 48 to 54, or 48 to 53 if overtime is paid at 1¼ normal rates, would bring the increase of wages up to the modified Cost of Living. Actually earnings were equivalent to 57 working hours.

So far the analysis has related to all the industries massed together. Even within an industry there is considerable variation for different occupations, on which point we have little information. In the principal group of Engineering Firms the average earnings of skilled men increased 47 per cent. from October 1938 to July 1941, of semi-skilled 52 per cent. and of unskilled 46 per cent. In many industries the earnings of youths and boys increased more rapidly than those of men, presumably because in 1941 they were on jobs rated more highly than in 1938. Women's earnings in many cases increased less rapidly than men's.

Between industries the variation in increase is very considerable. Table II shows the (revised) average increases for 15 main groups.

TABLE II

Percentage Increase of Earnings October 1938 *to July* 1941 *in main Industrial Groups**

	Men.	*Women.*	*All employed.*
Metal, engineering, shipbuilding ...	50	44	49
Building and contracting	47	—	48½
Miscellaneous manufacture†	44	35	38
Cement, etc.	42	51	37
Textiles	42	32	37
Chemicals	42	37½	36
Bricks, pottery, glass	40	39	35½
Quarrying, etc.	39	—	37½
Leather	34	15	30
Food, drink, tobacco	34	22	28½
Woodworking	31	27	31
Clothing	30	26	28
Road transport, docks, etc.	32	70	29
Gas, water, electricity, Local Authorities	23	35	20
Paper and printing‡	15	16	16
General average¶	44	35	42

* In order of the increase in Men's Earnings.
† Including rubber.
‡ Printers' wages were increased in the Autumn of 1941.
¶ Including Government Industrial Establishments.

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[1] This number results from taking the increase in the cost of food as 31 per cent. instead of the 20 per cent. in the official index. For other items the official index is used. Very nearly the same result is obtained whether we use the official basis of 1914 weights or revise the weights in accordance with the Budget collections of 1937-8.

If we take the 95 industries separately we find :

Percentage increase.	*Men's earnings*	*Women's Earnings*
	Number of industries.	
Under 10	1*	2*
10 to 15	1*	2*
15 to 20	1*	10
20 to 25	9	12
25 to 30	12	9
30 to 35	17	14
35 to 40	17	9
40 to 45	19	6
45 to 50	12	5
50 to 55	4*	2*
55 to 60	1*	2*
60 to 65	0	0
65 to 70	1*	1*
	95	74†

* Details of specially low or high increases:

Men: Printing 9·7, Retail tailors 14·2, Stationery 18·4, Aircraft etc. 53·4, Miscellaneous metal 52·0, Cotton 54·3, Miscellaneous textiles 50·9, Public works 56·8, Shipbuilding 66·3.

Women: Retail tailors 9·3, Tinplate 5·5, Printing 11·6, Artificial silk 11·5, Concrete 51·0, Iron tubes 52·4, General engineering 57·7, Electricity supply 59·5, Trams 68·4.

† In 21 industries only an insignificant number of women were employed and no percentages are stated.

The average distribution for women is more erratic than that for men. The average earnings for women in 'Road Passenger Service' were 61s. 4d. in 1941.

There is no available information about earnings on railways or in coal mines or agriculture. As regards the last two, however, it can be affirmed that earnings have risen more rapidly than the general average shown in the Tables above.[1]

It should be emphasised that it is not possible to compute the total wage-bill or its change from the averages published, for we do not know the numbers employed at the later date. In 1938 the number of insured persons, not out of work, in this group of industries was about 8,200,000 and their aggregate weekly wage about £22Mn., about two-thirds of the whole National Wage Bill. If there had been no change in the numbers employed the weekly wages of the group would amount to about £1,600Mn per annum in 1941, to which must be added the earnings of the industries and occupations not included.

We may observe that these averages conceal any exceptionally high rates, such as are frequently alleged to be paid to boys, girls and unskilled workers. The averages of 42s. weekly for youths and boys under twenty-one years and 25s. for girls under eighteen are not excessive, and if abnormally high earnings are obtained by some, others must be in receipt of low earnings. A. L. Bowley.

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[1] It is stated that the number of shifts worked per week has increased whereas this was not allowed for in the table of wage-rates, Bulletin Vol. 3, No. 17, p. 384.

THE BURDEN OF THE WAR

A. CHANGES IN REAL INCOMES, 1938 TO 1940

CHANGES IN MONEY INCOMES

From the figures given in the White Paper on War Finance[1] we can estimate, for 1938 and 1940, the incomes of wage earners and non-wage earners, after payment of direct taxes. The total of direct tax liabilities is not shown separately for different classes of earners so that similar figures cannot be given for each of the five main divisions of income shown in the White Paper.[2]

We can make a rough estimate, however, of the amount of income tax payable by wage earners, and since the total income tax on wages is small compared with the other items, it does not matter very much that no exact figures are available. The estimate is obtained by considering the average earnings of men in different industries, obtainable from the Ministry of Labour's enquiries in October 1938 and July 1940, together with the numbers in employment in July 1938 and 1939, and taking the proportions married and unmarried in each industry from the information given in the 1931 Census. No particulars are available of the distribution of incomes for different sized families, amongst the wage earning class, and so we assume that the average income of unmarried men in each industry is the same as the average for all men. Nearly all the income tax on wages appears to come from unmarried men; a negligible proportion comes from families with children.

We can assume that all income tax on wages is payable at the reduced rate.[3] Since the amount of income tax will then be a linear function of income, the distribution of incomes about the average will not affect the results; except that in industries where the average income is below the income tax exemption limit, there may, of course, be some incomes which are liable to tax; and, in other industries, there may be incomes which are below the exemption limit and this would make the total income tax, based on the average income, lower than it should be. Since, also, the number of workers employed in the different industries has probably shifted, since 1939 (the last date for which figures are available), in favour of the higher paid occupations like engineering, the total amount of tax payable in 1940 may be underestimated. On the other hand, the proportion of men who are married probably increases for those earning higher incomes, and their taxable income would accordingly be reduced. What is likely to be the net effect of these influences is difficult to say. But the figures obtained should be sufficiently accurate for our purposes.

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[1] *An Analysis of the Sources of War Finance and an Estimate of the National Income and Expenditure in* 1938 *and* 1940. Cmd. 6261.

[2] See Table A, page 10 of the White Paper.

[3] The standard rate of tax would begin to be effective on the excess of income above £294 in 1938 and £318 (after April) in 1940 for single persons.

On these assumptions, then, and making some allowance for the fact that earnings were higher in July 1940 than for most of the remainder of the year, the total amount of income tax payable, at current rates, on wages is estimated, in round figures, at £10 million in 1938 and £60 million in 1940.

In order to obtain the amounts of direct tax payable on incomes other than wages, we have to deduct from the figures given in the White Paper the workers' compulsory contributions to health and unemployment insurance, which together amounted to about £43 million and £45 million in each of these years. We also have to deduct the income tax payable on interest on the national debt since the latter is not included in the estimates of income shown in the White Paper. The amount of this tax would depend on how the interest was distributed among the different income groups. But if we assume it is taxed at the standard rate, the amounts payable would be £58 million in 1938 and £90 million in 1940.[1]

Since we want to compare only incomes which are derived from production, we take an estimate of wages which excludes payments to the armed forces.[2] And we compare with this the combined total of profits, interest, salaries and rent, since the total of direct taxes cannot be further subdivided. We exclude from this comparison the small intermediate group of 'other income,' consisting of earnings of salaried workers and workers on their own account whose incomes are below the income tax exemption limit. The necessary adjustments may be set out as follows:

Estimates of Net National Income in 1938 *and* 1940.
(*£ Million*)

	1938	1940
Profits, interest, salaries and rent	2,510	3,019
Less: Direct tax liabilities, *total*	492	868
Plus: Direct tax on wages*	10	60
„ Workers' insurance contributions*	43	45
„ Tax on national debt interest*	58	90
PROFITS, INTEREST, SALARIES AND RENT, *net*	2,129	2,346
Wages, excluding payments to the armed forces	1,820	2,250
Less: Direct taxes and insurance contributions	53	105
TOTAL WAGES, *net*	1,767	2,145

* Included in the total of direct tax liabilities.

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[1] If the average rate of tax was higher than the standard rate, the increase in profits, salaries, etc., between 1938 and 1940 might be about 1 per cent. higher than that shown below.

[2] Obtained from M. Kalecki, 'The Share of Wages in the National Income,' BULLETIN, Vol. 3, No. 9. This estimate excludes only the increase in payments to the armed forces since 1938, but the amount paid in that year was negligible.

We find, therefore, that, after deducting direct taxes, profits, interest, salaries and rent (considering these four items together) increased by 10.2 per cent. between 1938 and 1940, while total wages increased in the same period by 21.4 per cent.

Before we can obtain the corresponding changes in real income, we have to consider the rise in the cost of living for each of these groups.

Note on the Cost of Living

In general we should not expect the cost of living to show a uniform change for all sections of the population, and we can make an attempt to estimate the increase in the cost of living between 1938 and 1940, separately for the two groups of wage earners and non-wage earners, which are here being considered. Differences between the index numbers for each of these groups arise because of variations in the proportions of income spent on different commodities and on different kinds and qualities of each commodity, the prices of which have not all moved in the same way. Compared with wage earners, for instance, non-wage earners spend a much larger proportion of their income on services, which have not risen in price as much as most other items, although they also spend a somewhat larger proportion on clothing, of which prices have risen very sharply. As regards the price movements of different qualities, it appears from an investigation made in Bristol[1] that the cheapest quality goods have nearly all shown a greater increase in price than the better qualities. For these reasons, we should expect the increase in the cost of living to be greater for wage earners than for non-wage earners.

We may estimate, very approximately, the rise in the cost of living for each of these groups by the following method. The proportions spent by wage earners on the main groups of commodities are taken from the Ministry of Labour's family budget enquiry of 1937-8, with adjustments for expenditure on drink and tobacco, which were evidently under-stated. These proportions have then been applied to the estimate of the wage bill in 1938, given in the White Paper, so as to obtain the total expenditure by wage earners, classified under ten main headings. The total national expenditure is also given in the White Paper, for six main groups, and these may be further subdivided, using the estimates of retail sales in 1937, compiled by the London Press Exchange on the basis of Mr. A. E. Feavearyear's original figures.[2] Subtracting the expenditure of wage earners from the figures of national sales, we can obtain approximately the proportions spent on the different items in 1938 by non-wage earners.[1]

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[1] See G. H. Daniel, " The Cost of Living in Bristol," BULLETIN, Vol. 3, No. 14.

[2] See the *Economist*, 27th April, 1940.

In order to estimate the price relatives for each group, we used the data obtained in the Bristol enquiry. Since the expenditure of wage earners and non-wage earners will not be clearly divided between the cheapest and good qualities, we assumed that half the difference between the increase in price of the two grades would correspond to the different price movements of the goods bought by each of these groups. We then added and subtracted equal amounts to the index numbers given by the Ministry of Labour and thus obtained the two sets of indices required.

The estimates obtained for the proportions spent on the main groups of commodities and the corresponding index numbers for the increase in prices between 1938 and 1940 (yearly averages) are shown below.[2] The weights in the case of non-wage earners[3] are probably not very accurate in all cases; but unless the errors are large they should not have any appreciable effect on the final index. Further, it has not been possible to apply the weights in any great detail. Thus the food index for non-wage earners should perhaps be slightly raised since they spend a smaller proportion of income on bread and flour, which have fallen in price, and a larger proportion on fish, which has risen considerably; on the other hand, they also spend a smaller proportion than wage earners on potatoes and sugar, both of which have risen very sharply in price; and on balance the effect of these differences may be negligible. The weight for food and drink in the case of non-wage earners also appears to be too large, which might cause the total to be slightly too high. The price indices for this group should, however, only be regarded as approximate.

Increase in the Cost of Living between 1938 *and* 1940.

	Wage Earners.		*Non-Wage Earners.*	
	Expenditure. %	*Price Indices.* (1938 = 100)	*Expenditure.* %	*Price Indices.* (1938 = 100)
Food and drink	42	122	36	118
Rent	12	102	16	102
Clothing	10	141	14	132
Services	6	106	17	106
Sundries*	30	120	17	115
TOTAL	100	120	100	115

* This includes the 'other items' of the Ministry of Labour's Index together with fuel and light. The lower index for non-wage earners is partly due to a larger weight for travelling, of which the cost increased by about 7 per cent.

[1] Slight adjustments had to be made to some of the figures where they appeared to contain errors. The expenditure on coal, for instance, given in the working class budgets would account for an annual expenditure of £64·5 million, while the estimate of retail sales shows only £65 million for the whole country. The four months of the family budget enquiry may not, of course, be typical for the whole year, but even so, one of these figures is certainly in error.

[2] The index number of the price of services was obtained from the Bristol enquiry, assuming a uniform increase over the period considered.

[3] The proportion spent on rent is obtained from N. Balchin, *Income and Outcome*. Expenditure on motor-cars has been excluded for lack of information about changes in price and expenditure, which have both been considerable.

This calculation is admittedly very rough but it can be taken, in the absence of more exact data, as giving some idea of the orders of magnitude involved. Allowing for a margin of error in the index for non-wage earners, the increase in the cost of living between 1938 and 1940 may be estimated at 20 per cent. for wage earners and 14–16 per cent. for non-wage earners. The Ministry of Labour's index shows an increase over the same period of 18 per cent., and for food only of 17 per cent., but it does not include drink and, although it is intended to apply only to working class households, it apparently includes middle class districts as well.[1]

No account has so far been taken of the effect of rationing on the cost of living. When some goods are rationed, there is an additional increase in the cost of living, since, even if there is no change in prices a given expenditure on rationed goods cannot yield as much satisfaction as the same expenditure on unrationed goods. This additional increase is not likely to be the same for both groups. On the one hand, wage earners spend a larger proportion of their incomes on rationed goods, while for non-wage earners, on the other hand, the reduction in consumption of these goods is greater. Similarly, although the more expensive types of goods, which can be purchased by the well-to-do in substitution for rationed commodities, have risen considerably in price, the fact that they are not generally within the reach of the wage earning class represents an additional burden on the latter. It is difficult to estimate the exact effect of changes of this kind, due to rationing, but, since some allowance should be made for this factor, we shall assume, fairly arbitrarily, that the cost of living indices, as estimated above, should each be raised by 3–5 points.[2] Thus, the effective increase in the cost of living between 1938 and 1940 is taken as 23–25 per cent. for wage earners and between 17 and 21 per cent. for non-wage earners.[3]

CHANGES IN REAL INCOMES

Applying these figures to the estimates given above for the rise in money incomes, we can obtain the changes in real income, if we take the latter to mean simply the changes in money income corrected for changes in the cost of living.[4] We find that, in real terms, the combined total of profits, salaries, interest and rent fell by 6–9 per cent. between 1938 and 1940 while, over the same period, real wages fell, in the aggregate, by 1–3 per cent.

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[1] Cf. BULLETIN, Vol. 3, No. 14, p. 328.

[2] It is impossible to measure exactly the effects of rationing on the cost of living, but this seems, if anything, a moderate estimate. For discussions of this problem, see the recent numbers of the *Review of Economic Studies*.

[3] The effects of indirect taxation are, of course, included in these estimates of the cost of living. No allowance, however, has been made for changes in the distribution of expenditure since 1938, which have probably slightly mitigated the effects of the increases in price.

[4] Incomes of non-wage earners should, more accurately, be deflated by an index which includes the prices of investment goods. Savings, however, are not a very large proportion of total income and the rise in price of investment goods was

These figures are not intended to show the outside limits to the variations in real income but, if we accept the estimates given in the White Paper as correct, they allow a reasonable margin of error for the several assumptions which have been made.

J. L. NICHOLSON.

B. THE BURDEN ON WAGES AND OTHER INCOMES

The question ' Who pays for the war?' is frequently answered by the compilation of direct taxes paid by various classes of the population. And in this way the rather biased result is arrived at that the poor do not pay for the war at all because they are not subject to income tax. Any serious attempt, however, to answer this question concerning the financial war burden on various classes should obviously take account of indirect taxation also. This calculation is, however, very difficult, because of the lack of reliable statistical data on consumption by the poor and the rich of drink and tobacco, which are the most important items of indirect taxation. Indeed, the sources of information of the shares of various income groups in the consumption of particular commodities are family budgets, in which the items of drink and tobacco are generally known to be understated. But apart from this technical difficulty there is a general objection against measuring the war burden by tax payments even if indirect taxation is accounted for.

The payment for war is, indeed, not limited to the payment of taxes. A good example of this is the repercussions of sinkings of cargoes by the enemy. The loss is covered by insurance, the cost of which is added to the price of imports. The resulting higher price paid for consumption goods surely means paying for the war. Another important example is a rise in prices disproportionately with costs, owing to the scarcity of goods. Assume that the extra profits arising in this way are taxed away. Although technically paid by producers or merchants, these taxes in fact are a charge on the consumer.

These and similar difficulties may be avoided if we introduce a broader concept of paying for the war. Imagine that it is possible to estimate approximately how the real income of a certain class of the population would change if employment had risen as it actually has during the war and there were no war-time abnormalities. We can

similar to that shown by the cost of living index. Thus, according to the Board of Trade Index, prices of iron and steel increased between 1938 and 1940 by 14 per cent., prices of building materials by 17 per cent. and prices of non-ferrous metals, which would have only a small weight in the total, by 30 per cent.; while the cost of living index, as estimated above shows an increase of 14-16 per cent. The latter may be used, therefore, as an index of deflation, without serious error.

then calculate that *potential* real income of this class—i.e. the real income they would get at the present level of economic activity in normal conditions—is higher by α per cent than in the year preceding the war. Further we calculate by how much their *actual* real income is reduced. If we denote this latter percentage by β, the potential real income is $100 + \alpha$ (taking the year preceding the war equal to 100) and the actual real income is $100 - \beta$. The discrepancy between these two items may then be taken as the amount paid for the war by the class of the population considered.

Let us apply this method for an estimate of how much the wage and non-wage earners paid for the war in 1940. The increase in employment of wage earners in man-hours between 1938 and 1940 may be estimated at 7 per cent.[1] If there were no war such a rise would probably cause an increase in the real income of both wage and non-wage earners of about 7 per cent. For the economy was in 1938 not so fully employed that a rise of 7 per cent. would be subject to diminishing returns. And with constant returns the real output would increase more or less proportionately to employment and there would probably be no important shifts in the distribution of income between wage and non-wage earners.[2] Thus the *potential* real income in 1940 may be assumed to be 107 (1938 = 100) both for wages and other incomes. On the other hand, Mr. Nicholson estimates in the first part of this article that the fall in the actual real income between 1938 and 1940 was 1–3 per cent. for wage earners and 6–9 per cent. for non-wage earners. Thus their *actual* real income in 1940 was 97–99 and 91–94 respectively (1938 = 100 in each case). It follows that wage earners paid in 1940 for the war 7–9 per cent. and non-wage earners 12–15 per cent. of their potential income. This calculation, even allowing for its approximate character, clearly shows that what the wage earners pay for the war is by no means negligible as compared with the contribution of non-wage earners. And if the enormous difference in average income of the two classes compared is taken into consideration, the financial war burden on workers appears to be relatively high.

M. Kalecki.

PROBLEMS OF DEFENCE PRODUCTION IN THE UNITED STATES

[*Note. The following article was written before the new defence plans contained in President Roosevelt's message to Congress became known. The speeding up of defence expenditure will render the problem of bottlenecks even more important than it appears from the following survey. On the other hand the need for a limitation of consumption in the aggregate will become necessary sooner. But the conclusion remains that the bottlenecks are the main problem of the immediate future, and only after they have been broken will full employment be attained, and the need for restricting aggregate consumption become urgent.*]

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[1] Bulletin, Vol. 3, No. 13, p. 297.

[2] The relative share of wages in the national income was, before the war, remarkably stable over a long period.

How much the United States will be able to spend for defence purposes will depend on two sets of circumstances. First, how much the national product can be increased by the use of unemployed resources, and how much is to be set aside for consumption out of the total. If this estimate of defence output in general terms of total production capacity and total consumers' requirements is given, there is then the second question, how far this output can be realized in a limited period in view of the scarcity of particular factors.

I. The Potential Defence Production and its Finance

It is necessary to give a rough estimate of the addition to national product which will result from a certain addition to employment. For this purpose the fluctuations of 'gross commodity product' (as given by S. Kuznets) and of the number of employees in non-agricultural establishments in 1929 to 1940 are compared in Table I. Gross commodity product is different from gross national product because it excludes the value of services not embodied in commodities (e.g. rents, entertainment, services rendered by the government).[1] On the other hand, the employment considered excludes agricultural employment which is hardly measurable; there is a considerable surplus of labour in agriculture which is more or less intensively used as output fluctuates. But as agricultural output is a relatively small fraction of the total, and its fluctuations are small, the changes in the gross commodity product depend mainly on changes in non-agricultural employment. To allow for the change in weekly hours worked in industry the employment given for each year is that which would have been necessary if hours had been the same as in 1929; changes in hours worked in non-industrial establishments were neglected. The relation between the non-agricultural employment at 1929 hours, and the gross commodity product at 1929 prices is shown in a scatter diagram (Figure 1). It appears that the years from 1929 to 1932 are roughly on a line, whereas the years 1933 to 1937 are scattered round another line which is lower and less steep than the former one. The roughly estimated figures for 1939 and 1940 seem to show that from 1938 on the regression line has shifted downwards again. This shift of the regression line illustrates the increase in productivity which has taken place. In the years 1932 to 1937 an addition to employment of 1 million workers (working at 1929 hours) produced an increase in gross commodity product of $4 billion at 1929 prices. As productivity has probably increased since, this may be taken as a conservative estimate of the addition to gross commodity produce to be expected to-day.

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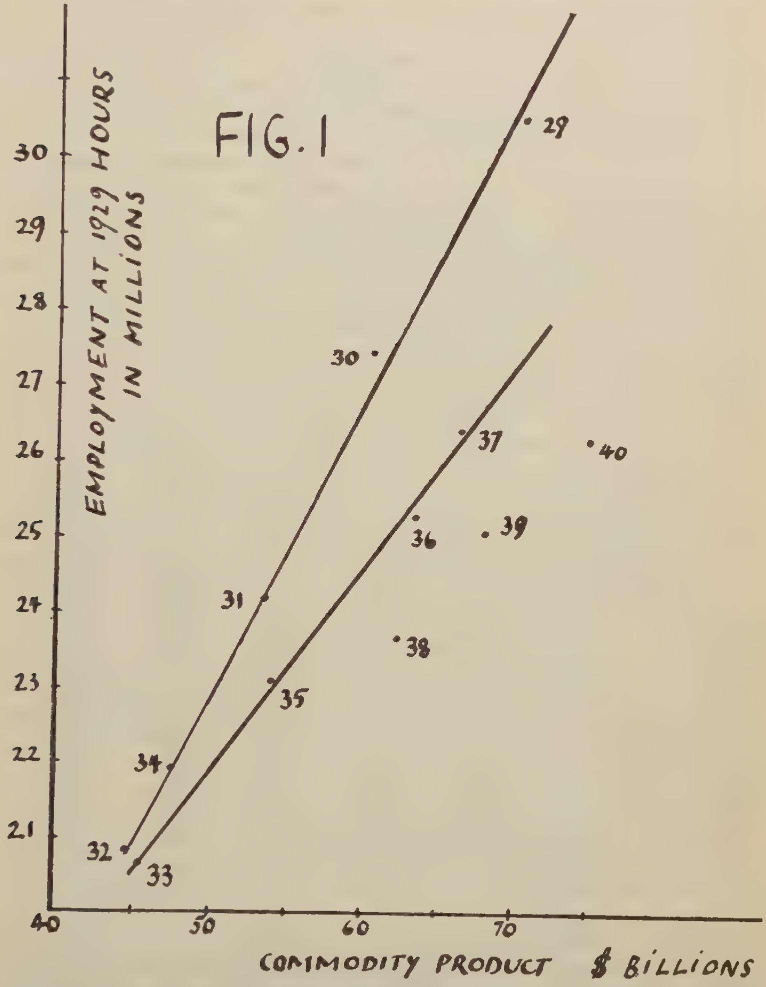
[1] Some of these services do not absorb labour (e.g. rents); others do, and the corresponding amount of labour ought to be excluded from the above employment. The error resulting from its non-exclusion means that some labour could be withdrawn from service industries to increase the commodity production somewhat more than is estimated in the text.

The unemployed reserve of labour was estimated at the beginning of the rearmament period in June 1940 at about 9 million persons



(estimate of the Works Progress Administration). Employment has considerably increased since (it was 3·8 million greater in June 1941), but the available labour reserve is probably much greater than the unemployment figures indicate. The annual rate of growth of the labour force is about half a million. Taking into account 'disguised' unemployment in agriculture and other trades, and assuming a withdrawal of 2 million into the armed forces (in addition to the two million which are already there), Professor Hansen estimated that by 1942 (non-agricultural) employment can be easily increased by 10 millions above the level of 1940.[1] This can be taken as a cautious estimate; the 'Survey of Current Business' has estimated the total labour reserve at 10 million in August 1941.

What is the addition to gross commodity product to be expected if these reserves are drawn into employment? Weekly hours in industry were considerably lower in 1940 than in 1929, say 80 per cent. of the 1929 level. If we assume that the additional employment is distributed between industry and other establishments in the proportions prevailing in 1940, namely one to one, and if changes in hours in non-industrial establishments are neglected, 1 million workers at 1929 hours are equivalent to 1·12 million at 1940 hours. If therefore 10 million are added to the 1940 employment, at 1940 hours, the gross commodity product will increase by $36 billion at 1929 prices. This corresponds to something like $32 billion at present (1941) prices.

Table I

Employment and Gross Commodity Product.

	Index of weekly hours in industry (manufacturing, transport, mining, construction)	*Employment in industry*	*Industrial Employment at 1929 hours*	*Employment in Trade, Service, Finance and Government*	*Total employment in non-agricultural establishments at 1929 hours*	*Gross Commodity product 1929 prices (Kuznets)*
		millions	*millions*	*millions*	*millions*	*$ billion*
1929	100	16·95	16·95	13·64	30·59	70·8
1930	94	15·14	14·23	13·22	27·45	61·0
1931	90	13·06	11·75	12·48	24·23	53·7
1932	85	10·89	9·25	11·56	20·81	44·5
1933	82	11·16	9·14	11·52	20·66	45·3
1934	76	12·52	9·53	12·36	21·89	47·7
1935	79	13·17	10·32	12·80	23·12	54·0
1936	83	14·40	11·88	13·42	25·30	63·9
1937	81	15·47	12·52	13·96	26·48	66·6
1938	74	13·40	9·92	13·73	23·65	62·1
1939	78	14·26	11·10	13·37	25·07	68·0*
1940	80	15·10	12·10	14·24	26·34	75·0*

*Estimates

Hours increased, however, since 1940 to something like 85 per cent. of the 1929 level in August 1941 and under the impact of the war they may increase further to perhaps 90 per cent. of the 1929 level (in spite of overtime payments). This increase (involving a potential industrial employment of 20 million persons) would be equivalent to an increase in total employment at 1940 hours of 2·5 million workers. It would thus cause a further addition to gross commodity product of $8 billion at present prices. In all, the employment of the available labour reserve and the increase in hours may be expected to increase gross commodity product by about $40 billion (at present prices) above the level of 1940, unless there is an early call-up of substantially more than the 2 million men allowed for in the above estimates.

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[1] *Review of Economic Statistics*, February, May, 1941.

The gross commodity product in 1940 was of the order of $66 billion at current prices. Taking into account the rise in prices which has taken place in the meantime, the potential gross commodity product which could be produced with the assumed increase in employment and hours may be estimated at about $110 billions in present (1941) prices.

Of the 1940 gross commodity product about $17 billion to $18 billion represented gross capital formation (construction, durable producers' goods, inventory increases, and foreign balance). The total of gross savings in 1940 may be put at between $15 and $20 billion. If gross commodity product is to exceed the 1940 level by $40 billion, gross national income will rise by at least as much. Now it can be assumed that in the United States of a given increase in gross income about one half is consumed and one half is saved.[1] If the saving of 15 to 20 billions out of the 1940 income, and the additional saving of $20 billion out of the increase in income are added, it appears that the total gross saving available out of the potential commodity product of $110 billion will be of the order of $35 to $40 billion. About $5—10 billion may be regarded as a minimum of investment for other than defence purposes, so that $25—35 billion out of the potential commodity product will be available for defence purposes (including all indirect outlay for defence plants, transport equipment, etc., whether private or on government account). The finance of a rate of defence outlay of this order cannot represent any fundamental difficulties if non-essential investment is cut down. This can be achieved by control and allocation of raw material supplies. Only if the outlay on defence increases substantially above this level will there be an urgent necessity for limitation of aggregate consumption. This does not mean that consumption may be left to develop without interference; the existence of bottlenecks will make it necessary to direct it so as to avoid the using up of scarce factors.

It will be noted that the above calculations do not take into account taxation. In fact it would be incautious to assume that taxation reduces consumption (meaning the normal rate of consumption out of the given income) by a corresponding amount, and the extent of which it is reduced is difficult to estimate. It has therefore been assumed that the additional taxation imposed will be paid out of (potential) savings. To the extent however to which this taxation will reduce consumption, the margin available for defence purposes will be higher than assumed above.

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[1] See the calculation of the propensity to save for 1924 to 1935 by M. Kalecki, *Essays in the Theory of Economic Fluctuations*, p. 68 *seqq.*

II. Defence Plans before the Entry into the War

By way of comparison the magnitude of the defence programme as it stood before the outbreak of the Pacific war may be indicated. The total sums appropriated were about $66 billion including first and second lease and lend appropriation and expenditures on account of previous British orders. The monthly rate of defence expenditure was about $1·4 billion in October, 1941. It was stated that a monthly rate of expenditure of $3 billion was ultimately aimed at, but for 1942 no higher yearly expenditure than $30 billion seems to have been contemplated. Apart from government expenditure there is also a certain amount of private expenditure on defence plant, investment in working capital in defence industries, expenditure on transport equipment, etc., which must be classified as defence expenditure, but this is of a smaller order as compared with public expenditure. The rate of defence outlay contemplated for the later part of 1942 corresponds therefore roughly to the sum which, according to the above estimates, can be financed out of the excess of income over consumption with full employment of available resources. A great proportion of the appropriation, and an even greater proportion of the actual expenditure so far has gone into construction of defence plant, and of defence housing, military posts, depots, etc.

The defence programme may also be described in terms of labour requirements. The Bureau of Labour Statistics estimated that in June 1941 3 million persons were engaged in direct or indirect defence work. In the second half of 1942 this number is expected to increase by another 3 million. Since the Pacific war broke out, the defence plans have been considerably modified. A defence expenditure of $56 billions for the fiscal year 1942-43 is now contemplated. This will certainly involve a restriction of the growth of aggregate consumption.

III. The Bottlenecks

The greatest difficulties in attaining the target set by the defence programme lie in the scarcity of particular raw materials (aluminium, steel, various non-ferrous metals, rubber, silk, certain chemicals) and of skilled labour. The transport bottleneck, very serious in shipping and potential also in rail transport, leads back again to the bottlenecks in shipbuilding and transport equipment.

The serious character of the shortage in skilled labour can be seen from a statement of the labour requirements in defence industries. Of a total of 1·4 million additional workers required in aircraft, shipbuilding, machine tools and other defence industries, in the period April 1941 to April 1942, 39 per cent. are skilled, 38 per cent. semi-skilled and 16 per cent. unskilled workers, while 7 per cent. are professionals (draftsmen, engineers, etc.). Thus, unless there is dilution, these defence industries would have to absorb up to April 1942 550,000 skilled workers and about the same number of semi-skilled workers. At about the beginning of the above period, in May 1941, the U.S. Employment Service counted only 115,000 skilled and semi-skilled workers as unemployed and immediately or shortly employable. It can safely be assumed that there are no unemployed skilled workers by now. In the period after April 1941—April 1942, there will be further considerable requirements for skilled labour, to judge from the estimates of long term requirements which have been made for aircraft and shipbuilding industries.[1]

An increase in hours will not solve the problem to any but a small extent, because the industries in question have already increased the hours to a level which cannot be raised very much without harm to efficiency. For example the machine tool industry registered average weekly hours of 52 in June 1941, the aircraft industry and shipbuilding about 45.

In view of the shortage of skilled labour it is intended to carry through a considerable amount of dilution and to substitute semi-skilled workers, trained in short courses, for skilled workers. A training programme of considerable size is to be carried out. Between June 1940 and June 1941, 400,000 persons were enrolled in pre-employment courses, 460,000 in supplementary training courses (for employed workers), and a considerable number in other training establishments. The yearly rate of enrolment in training courses is to be increased to 2 millions in 1942. This is a high figure, but it has to be compared with the additional defence requirement of 3 million workers. The replacement on a huge scale of skilled workers by young people with a few months training represents a difficult task and it will in any case take time.

So far the preceding outline of the labour problem has not taken into account the possibility of shifting skilled labour from non-defence to defence production. In fact the chief sources of skilled labour for defence production are the durable goods industries;

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[1] Employment in aircraft industry numbered 290,000 at the end of July, 1941 ; it is to increase to about 860,000 early in 1942, and possibly to 1 million at the end of 1942, if the programme is to be carried out. The normal requirements are 36 per cent skilled, 41 per cent. semi-skilled, 8 per cent. professional and the rest unskilled workers. Without dilution it would thus appear that 360,000 skilled workers are needed in aircraft production alone by the end of 1942. In shipbuilding, employment in July 1941 was 350,000; the programme will require an increase to 630,000 in September 1942 when the peak of requirements will be reached. The normal proportions are about 48 per cent. skilled, 24 per cent. semi-skilled workers. The number of skilled workers required in excess of those employed in July 1941 is therefore about 130,000. Practically no unemployment existed among skilled shipyard workers at the beginning of 1941.

they employed in June 1940, at the start of the defence programme, about 3·8 million workers. The following table gives the number of workers in various durable goods industries at that time (in thousands):

Iron and Steel	900
Machinery	1,000
Automobiles	400
Other transport equipment	200
Non-ferrous metals and products	250
Lumber and products	600
Stone, clay and glass	300

The machinery and the transport equipment industry employed together about 1·6 million workers. If a proportion of 40 per cent. skilled workers is assumed, there were about 600,000 skilled workers in these industries when the defence programme got under way. This number would approximately cover the requirements of 550,000 skilled workers in defence industries up to April 1942, but it has to be borne in mind that not all non-essential investment can be eliminated, and that a part of the skilled workers had already been transferred to defence production by April 1941. Nevertheless a considerable number of skilled workers can still be transferred. This, however, involves not only the cutting down of non-essential investment to a minimum, but also the restriction of consumers' durable goods production to a small fraction of its peace time level. Consumers' durable goods account for the greater part of employment in the automobile industry and for part of the employment in machinery (refrigerators, radio, electrical equipment).

The shifting of labour from these industries to defence production, though it does by no means obviate the necessity for training, is the quickest way of obtaining the immediate requirements of skilled labour. In a similar way the problem of scarce raw materials can be at least partly solved. Here again, though the expansion of plant capacity is necessary for long run considerations, the quickest way to get the necessary quantities for current defence production is to shift raw materials from non-essential industries. In this way skilled labour as well as plant in iron and steel and metal industries will be turned over to defence production by the shifting of the raw and semi-finished products of these industries from non-essential to defence uses.

The policy of cutting down non-defence production wherever it is necessary to relieve bottlenecks, has already been followed to a large extent, but it has not gone far enough. Priority controls have been established by stages since February 1941 for most of the scarce materials; but the full priority control for steel was only introduced in August 1941. Supplies of automobiles have been cut with a view to a total reduction of 50 per cent. in the model year 1942, and similar cuts were made for some other durable consumers' goods.

In addition, restrictions were placed on instalment buying. Right up to the early autumn sales of automobiles and other durables were exceedingly high.

An effective solution of the bottleneck problem will require more drastic measures than hitherto carried out, such as e.g. a cessation of civilian supply of passenger cars, and cutting of other durables to a small percentage of normal supply.

That the policy of cutting non-essential supplies in the bottleneck sectors has not been applied earlier and more drastically is perhaps partly due to the fact that the issue of price policy has not yet been decided. The bill which proposed a general price stop (related to the famous Baruch plan) was rejected by Congress. The Treasury is energetically opposing any proposal involving the stabilization of wages. Individual price control has been restricted on the whole to raw materials and semi-finished goods. The control of prices in the retail stage will, however, be one necessary condition for the tackling of the problem of 'bottleneck inflation.' It will not be sufficient by itself; scarcity of certain consumers goods in relation to demand already exists, and what is required is not only price control, but also a method of ensuring the equitable distribution of these scarce goods to consumers. This is difficult because the scarcity extends to a wide range of consumers goods. A method of rationing this variety of goods en bloc will have to be found, which is not too complicated and leaves a certain degree of choice, such as the method of rationing expenditure on these scarce goods.[1]

The main problem of defence production in the near future will be not the limitation of consumption in general, but the cutting down of consumption in particular lines. This will make some form of rationing, confined to these particular lines and sufficiently broad to include a variety of small items, inevitable. A probable consequence of this restriction of consumption in particular lines will be a shifting of consumers' expenditure to other lines. This may produce more bottlenecks at a later stage, but the problem of these secondary bottlenecks is less urgent and they may be dealt with later on. As long as the defence expenditures do not rise above a level which would cause general scarcities, this shift in consumption will cause no harm but only make for a fuller use of available resources. At present the government still holds considerable amounts of some agricultural surplus goods (corn, cotton, wheat, live stock products), and production of some non-durable manufactures (e.g. shoes) can still be increased without additional plant.

The conclusions may be summarized as follows: The United States can easily finance, without any restriction on aggregate consumption, simply by drawing into use all available idle resources and cutting down of non-essential investment, a yearly defence expenditure of $30 billion, and presumably more, in view of the conservative character of the estimates used. The additional taxation imposed in 1941 cannot be relied upon to reduce consumption to a corresponding extent, because part of the sums paid in taxation would otherwise have been saved; but to some extent this taxation will make consumption lower than it would have been without it, and therefore it will free additional resources for defence purposes. Before the above level of about $30 billion is overstepped the urgent problem is not one of general scarcity but of scarcity of particular raw materials and skilled labour. In the long run these bottlenecks can be overcome by training additional labour and providing additional plant and shipping space. In the immediate future the bottlenecks can only be relieved by cutting down non-defence production which competes for the scarce factors. It depends mainly on the solution of this problem how quickly defence expenditure will rise and when full employment will be reached. The cutting down of non-essential production is already on the way, but to carry it further requires price control and rationing of those consumers goods which are rendered scarce by the restriction of supplies. The shifting of expenditure to other goods can to some extent be tolerated, because it will make for fuller use of existing resources.

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[1] For a description of this method see M. Kalecki, General Rationing, BULLETIN, Vol. 3, No. 1.

Since the Pacific war broke out, the Government has revised its plans. President Roosevelt announced that he was aiming at a defence expenditure of half the national income. This will certainly make it necessary to cut down consumption as a whole. But the existing bottlenecks will probably delay the increase of spending to such a high level, and for some time the dominating problem will not be the restriction of consumption in the aggregate but the freeing of the bottlenecks and the full use of available idle resources.

J. Steindl.

OIL SUPPLY IN THE INDIAN AND EASTERN PACIFIC AREAS

Japan's Position

Japan has, in the first weeks of the war, conquered territory with oil wells and refineries producing normally some 1 million tons of oil yearly, and is threatening areas still richer in this valuable mineral. If the oilfields and refineries in British and Allied territory are destroyed thoroughly before they are occupied by the invader, Japan's position with regard to oil supply will become precarious the more she approaches the time when her oil reserves will be exhausted. This stage will be reached, according to Mr. Dalton, the Minister of Economic Warfare, in fourteen months time.

Japan's normal yearly peace-time consumption amounted to about 4 million tons. But consumption has been restricted considerably during the last few years. The use of private cars has been prohibited since October 1st, 1940, although a few exemptions are granted. Taxis and 70 per cent. of buses had to change over to fuel other than petroleum products. During 1940 only one-third of average monthly consumption of gasoline was allowed in Tokyo and other places. The number of taxis in Tokyo was reduced by almost 70 per cent. Since private consumption has been restricted so severely and with mechanised warfare in China, lately, on a rather small scale, annual consumption during the last few years may be estimated at 60–70 per cent. of normal or some 2.5–2.8 million tons.

Japanese home production of crude oil is estimated at	400,000	tons	yearly
Output at Formosa and the share in the production at Sakhalin account for some	300,000	,,	,,
Oil from Manchurian shale	150,000	,,	,,
Oil from coal	150,000	,,	,,
Alcohol and benzole	180,000	,,	,,
Yearly production	1,180,000	,,	,,

Japan aims at an extension of the coal-oil industry and is spending some 1,000 million yen[1] for this purpose. At the same time a domestic refining industry for natural petroleum is being built up. An additional 17 million yen are, according to the Japanese budget, being spent for the drilling of more oil wells. In Manchuria natural petroleum has been discovered.

Although Japan has suspended the publication of import figures in 1937, trade statistics of other countries allow an estimate. In 1940 Japan imported about 4.3 million tons of oil,

3,000,000 tons came from U.S.A.
550,000 ,, ,, ,, Dutch East Indies
112,000 ,, ,, ,, Mexico.

According to a contract entered in July 1940 by a Government owned Mexican company, Japan was to receive about 340,000 metric tons during the first year of the contract, probably from May 1940–May 1941. The statistical information available, however, does not account for this quantity. While imports from Mexico consisted of crude oil, Dutch East Indies sent mainly fuel oil; U.S.A. exports consisted largely of crude oil (51 per cent.), gas oil and distillates (23 per cent.), gasoline (14 per cent.), and residual fuel oil (10 per cent.). A large part of gasoline was during 1940 sent from U.S.A. to Japan, not in bulk as usual but in containers which can easily be stored at any place for any time and yield, as a by-product, steel scrap. U.S.A. banned the export of aviation spirit in July 1940 but up to this date the exports had almost reached the quantity of the whole year 1939, i.e. 527,000 barrels.

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[1] According to the 'Petroleum Press Service' of October, 1941, 500 million yen are being spent during 1941 and 1942 in addition to 400 million yen spent before. (1 yen = 14½d.)

Japan had thus a home production of	1·2	million tons.
Imports of	4·3	„ „
Total	5·5	„ „
Consumption	2·5–2·8	„ „
Yearly surplus	2·7–3·0	„ „

Since oil stocks were accumulated since 1938, considerable stores should be at Japan's disposal. The oil deficit in Japanese occupied territory will be covered partly by stringent restrictions in consumption. Transport by animals, by rail and by water will again come into the foreground. To a certain degree, power oil can be replaced by coal, Indo-China producing (in 1939) 2.5 million tons of coal.

Production and Exports

Dutch East Indies exported to Indo-China annually about 120,000 tons, 40,000 of which consisted of kerosene. Her total exports remained in 1940 at a level of about 6.30 million tons. Exported oil consisted mainly of gasoline (1.97 million tons), fuel oil (1.48), gas and diesel oil (1.19) and kerosene (.80). Most of the oil is won in Sumatra, especially in her extreme south.

Table I

Regional Distribution of Oil Production in Dutch East Indies, 1939.
in million tons.

Sumatra:		Borneo	1·68
Southern (Palembang) ...	3·13	Java:	
Eastern	·16	East	·71
Middle (Iambi)	1·21	Middle	·13
North (Achin)	·82	Moluccas	·11
Sumatra Total	5·32	Grand Total	7·95

According to the present direction of Japanese aggression, the small islands of Pulan Samboe and Pulan Bukom near Singapore may belong to the 'priority' targets. It is there that oil refined in the Dutch East Indies' chief refinery Palembang has been transhipped and stored. Dutch Borneo's oil is found and refined mainly on the eastern (Balik Papan) and north eastern shores (Tarakan Island) and can be used largely, without much refining, as fuel for ships. Oil in Java is found and refined near Tjeboe. Dutch oil companies have also erected plants producing high octane aviation spirit but detailed plans have been worked out for a large scale 'scorched earth' policy in case of emergency. Dutch East Indies occupies the first place as supplier of oil to British and Allied territory in the Indian and Eastern Pacific areas. In Table 2 production of oil by Dutch East Indies and by other countries in this area is shown and split up into the most important petrol products.

TABLE 2

Oil Production in Indian and Eastern Pacific Areas, 1938.

In 000 *metric tons*	*Crude Petroleum.*	*Motor Fuel.*	*Kerosene.*	*Heavy Oil.*	*Lubric. Oil.*	*Alcohol* (000*hl.*).
British India ...	1,285	68	139	34	8	244
Burma ...		229	542	30	63*	4
Behrein Islands ...	1,185	302	136	475	—	—
British Borneo‡ ...	907	66	46	679*		
Dutch E. Indies ...	8,212	2,253	989	2,793	25	
	11,589	2,918	1,852	4,011	96	248
Japan	400	416†	83†	405†	243†	
Sakhalin	560	—	—	—	—	
World Total	282,620					

* 1937. † 1935. ‡ Oil wells and refineries have meanwhile been largely destroyed.

Australia has discovered large oil deposits of a low gasoline content on the south-east coast of Victoria, at Lake Entrance. She has also begun production of shale oil in New South Wales, although the present annual output yields only 27,000 tons of gasoline, equalling 2½ per cent. of Australia's peace-time consumption.

Free China produces hardly any oil apart from small deposits on the North-West Road, yielding 1,200 tons of gasoline yearly.

CONSUMPTION AND IMPORTS

British India's output is not sufficient for home demand, and she has therefore to cover 45 per cent. of her consumption by imports. India's consumption was the highest among Allied countries in the above area, followed by Australia and Dutch East Indies. Petroleum products used consisted largely of fuel oil, especially in Dutch East Indies, while kerosene ranked first in British India, and motor fuel in Australia and New Zealand. China used 6.5 million barrels of oil equalling some 950,000 tons, but information is lacking how far this quantity has been used in occupied or in free China. Other territory invaded by Japan, i.e. Indo-China and Thailand, consumed only 1,860,000 barrels. Territory belonging to the Allied powers accounted for 55 per cent. of lubricants, 85 per cent. of kerosene and 70 per cent. of motor fuel, fuel oil and of all petroleum products used in the above area.

TABLE 3.

Oil Consumption in Indian and Pacific Areas, 1938.

in 000,000 *barrels.**	*Petrol Products.*	*Motor Fuel.*	*Kerosene*	*Fuel Oil.*	*Lubricants.*
Australia	14·5	7·8	1·3	3·8	·5
Br. Malaya	4·5	1·0	·3	2·9	·1
Ceylon	3·0	·4	·2	2·4	·0
Br. India	16·3	2·7	7·0	4·1	1·1
Hong Kong	1·2	·2	·1	·8	·1
D.E.Indies	11·4	1·5	2·0	6·1	·2
New Zealand ...	4·4	2·6	·2	1·3	·1
Total	55·3	16·2	11·1	21·4	2·1
Hawaiian Islands ...	4·0	1·2	·2	2·4	·1
Philippine „ ...	4·3	1·0	·6	2·5	·1
Total	8·3	2·2	·8	4·9	·2
Thailand	1·0	·2	·4	·3	·1
Indo-China	·9	·3	·3	·1	·0
Japan	25·0	7·8	1·5	11·8	1·8
(1936:) ...	(33·5	10·0	1·8	17·0	2·2)
Total	26·9	8·3	2·2	12·2	1·9
China	6·5	1·3	2·8	1·7	·3
Grand Total ...	96·8	28·0	16·9	40·2	4·5
World Total: ...	1,907·5	765·5	148·8	734·7	56·3

* The equivalent of barrels in gallons and metric tons depends on the specific gravity of petroleum, and centres around 42 gallons per barrel and 7–7·5 barrels per metric ton. Specific gravity of petroleum products as given by the League of Nations is ·735 for motor spirit, ·900 for lubricants, ·810 for kerosene and ·930 for fuel oil.

Private consumption has been reduced in all parts of the British Empire within this region. In New Zealand, rationing was introduced at the outbreak of war. At the end of 1940 consumption of oil had declined by some 30 per cent. In Australia rationing came into force on October 1st, 1940. From July 1st, 1941, civilian gasoline consumption has been cut by 500,000 tons yearly. The ration allowed to private motorists amounts to 1,000 miles a year. Rationing in British Malaya started on March 1st, 1941.

All Empire countries in this area are dependent on the import of oils. They preferred, of course, the shortest shipping routes for delivery so that more than half of total oil imports came from the Eastern Pacific area, and 17 per cent. from Iran. Dutch East Indies' deliveries accounted for almost 50 per cent. of all imports.

TABLE 4.

Oil Imports of British Empire (Indian and Pacific Area) 1938.
*in million gallons.**

Imports into	*Main Item*	*Total.*	*From:*			
			Dutch E. Indies.	*Iran.*	*U.S.A.*	*Br. North Borneo.*
Australia ...	gasoline etc., residuals ...	597	388	85	101	—
Br. India ...	fuel, kerosene	439	28	158	12	16
Br. Malaya ...	fuel, motor-spirit ...	343	274	—	8	45
New Zealand	motor spirit, crude	178	112	—	42	—
Ceylon ...	crude ...	121	—	57	—	13
Hong Kong ...	fuel ...	94	74	—	14	—
Total		1,772	876	300	177	74
		100	49	17	10	4

* Gallons can be converted into tons by these factors : kerosene 276 : 1, motor spirit 310 : 1, lubricating oil 250 : 1, gas oil 260 : 1, fuel oil 246 : 1, other oil 250 : 1.

Part of British India's total oil imports came from Burma (183 million gallons), while part of Ceylon's imports originated in the Bahrein Islands situated in the Persian Gulf and in Sumatra (31 and 19 million gallons respectively.)

As far as British and Allied territory is concerned, no supply difficulties will arise as long as the Dutch East Indies are held, and the command of the seas and available tanker tonnage allows the safe transport of oil. With Iran and Iraq as alternative sources of oil, supply of the Pacific area may be closely linked up with events in the Near East.

S. Moos.

DIARY

TAX RESERVE CERTIFICATES

The purpose of the issue of Tax Reserve Certificates now on tap is to provide a suitable security for investment of funds which are accumulated by taxpayers in connection with the time lag existing between tax liabilities and tax payments. They may be used in payment of all taxes except income tax on salaries and wages (Schedule E) which are now deducted currently at source. The tax must be due not less than two months and not more than two years from the date of issue. The certificates bear interest at 1 per cent. tax free but only if they are applied for payment of taxes. The certificates, which are not transferable, can be repaid without interest at any time not less than two months after the issue.

It is obvious that the terms are very favourable for the tax payers. 1 per cent tax free is equivalent to at least 2 per cent. gross (when this income is subject to standard rate income tax) but may be much more (when it is subject to sur-tax or E.P.T.)—while the interest on bank deposits is only ½ per cent. The scheme increases also the cost of borrowing to the Government: if the funds in question accumulated in banks and were borrowed by the Government by means of Treasury Deposit Receipts, the interest would be 1⅛ per cent, out of which, however, a substantial part would be paid back to the Government by the Banks and deposit holders in taxes. The scheme will of course eliminate to a great extent the accumulation of tax reserves on deposit account, but it is difficult to understand what is the advantage of this from the point of view of the general economic situation, to make it worth while to increase the cost of borrowing.

LEASE AND LEND SUPPLIES FOR CIVILIAN USE

A point raised in the note on Finance in Vol. 3, No. 16 of the BULLETIN requires further elucidation. It was assumed there that Lease and Lend supplies of food, etc. for 'civilian' use lead, after the goods have been sold to the public, to an accumulation of extra-budgetary funds which are lent to the Government. It appears now that such proceeds are credited directly to the Ministry of Food or the Board of Trade whose expenditure as shown in Exchequer Receipts and Issues is *pro tanto* reduced. The recorded Supply Expenditure is therefore short of actual Supplies by the *total* amount of Lease and Lend Supplies both for the Government and for 'civilian' use. Further, if it is said that Government expenditure is financed by taxes, savings, home disinvestment and adverse balance of payments on current account, the latter must be understood exclusive of *all* Lease and Lend supplies.[1]

RUBBER SUPPLIES AND CONTROL

Although rubber comes mainly from the area involved by the armed conflict in the Pacific there is no immediate danger of a shortage even if imports were now suspended. The rubber stocks of U.K. and U.S.A. seem to be sufficient for one year's requirements provided civilian consumption is severely restricted. In peace time the manufacture of rubber tyres accounted for two thirds of the total rubber consumption. American stocks have increased from 126,000 tons at the end of 1939 to 455,000 tons at the end of October 1941 her total reserves being estimated at 650,000—700,000 tons. Australia's and Canada's stocks are unknown, their net imports before the outbreak of war had increased continually and in 1937 amounted with 55,000 tons to 70 per cent. of those of U.K.

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[1] In accordance with this, in the article 'Recent Trends in the Financial Situation,' the footnote to p. 389 should be deleted (also the words 'for Government use' in the text). This does not affect in any way the argument and the results arrived at in that article.

The Soviet Union covered her import requirements of about 30,000 tons yearly by deliveries from U.K.

U.K. took about two thirds of her imports from British Malaya, one fourth from Dutch East Indies and the rest from Ceylon.

Exports and Consumption of Rubber, monthly average, in 000 *tons.*

			Ap-Oct
Exports	1938	1940	1941
D.E. Indies	25	45	53
Br. Malaya ...	31	45	50
World	75	116	130
Quota in per cent. of capacity ...	55	84	100*

			Ap-Oct
Consumption	1938	1940	1941
U.K. ...	9	12	12
U.S.A. ...	36	54	66
Do. reclaimed	10	16	23
All importing countries ...	78	90	105

* From October 1st: 120.

Although there appears to be no immediate danger of shortage of rubber, two steps have been taken in Great Britain to ensure supplies for the future. Firstly the manufacture of a large number of articles made of rubber, varying from bathing caps to umbrella rings has been forbidden altogether from December 29th, 1941, while from January 5th, 1942, the manufacture of many other articles is made subject to licence by the Minister of Supply. It is not possible to say how much rubber will be saved by the prohibition as many of the articles concerned were already subject to Limitation of Supplies Orders.

Secondly a Rubber Control Board of seven members, including the previous Controller, has been appointed by the Minister of Supply. Two members of the Board are heads of principal rubber manufacturing companies, one of the Rubber Regeneration Company, another chairman of rubber plantation companies and the final members include a chartered accountant and a metal merchant. The Chairman of the Board stated that the change had been made 'in order to get a wider view of the whole aspect of the question, and affects growing, manufacturing and distributing.'

One of the chief problems the new Board will have to tackle is that of reclaimed rubber. On December 18th in the House of Commons, Mr. Parker stated that only 7 per cent. of rubber consumed in this country was reclaimed as against 38 per cent. in the United States, and that rubber scrap was exported to the U.S.A. to be reclaimed and was then re-imported. Mr. Harold Macmillan, Parliamentary Secretary to the Minister of Supply, replied that steps were being taken to increase the reclaim in this country. Whether the reclaim should be produced entirely here depended on technical considerations.

Another problem which should be considered also is the production of synthetic rubber, since supplies from Malaya and Dutch East Indies may be seriously reduced.

NON-FERROUS METALS CONTROL

The Minister of Supply has terminated, as from January 1st, 1942, the agreement under which the British Metals Corporation managed the Non-Ferrous Metals Control for a fixed fee of £221,400 a year, less the corporation's income from trading in this country. The Ministry of Supply is to assume direct responsibility for the Control and pay salaries at Civil Service rates. It is understood that the object is to save expense and the economy in this case is expected to be of the order of 50 per cent. The question of compensation for the termination of this contract has been turned down by the Ministry of Supply. Since it is probable that most of the personnel will remain at the Civil Service rates, it follows that the lack of compensation does not in this case hinder in any way the war effort.

It is possible that similar saving of expense could be achieved in the case of Cotton Importers and Distributors, Limited, the company formed in April 1941, from the Liverpool and Manchester Cotton Associations to carry out the importing and distributing of raw cotton for an annual fee of £500,000. The case of the Iron and Steel Control is somewhat different, since the staff " appears to be paid by the British Iron and Steel Federation."[1] The Government is, however, almost the sole consumer of steel, and the price paid for steel includes the levies to finance the Federation and the subsidiary importing Corporation. In this sense the Government pays for the Control, and it is possible that a considerable saving of expense might be achieved by direct staffing at Civil Service salaries. It is also probable that the more direct control by the Ministry of Supply would have prevented the failure of the Iron and Steel Control to organise satisfactorily the collection of scrap which was recently taken over by the Ministry of Works and Building.

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[1] Ministry of Supply Appropriation Account 1939, published Jan. 28th, 1941, p. 5.

ERRATUM

In the article 'A "Human Needs" Diet in War-Time,' BULLETIN, Vol. 3, No. 17, p. 393, line 7 : 'Mr. Beerbohm Rowntree' should read 'Mr. Seebohm Rowntree.'